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ABSTRACT

The author reviews research which examines a specific aspect of achievement arousal concerning the variable, "self-importance" of immediate activity. It also examines the relationship between "self-importance" and "future-importance"--that is, the extent to which possession of a certain personality attribute is believed necessary for achieving future goals. The author raises the question of whether the accentuation of characteristic effects of achievement related motives previously attributed to contingent future orientation is produced instead by contingent self-evaluation. Several as yet unpublished investigations into this area conclude that: (1) the effects of contingent self-evaluation (or self-importance, of immediate activity) are similar to those of contingent future orientation; and (2) when research views both effects of self- and future-importance simultaneously, both dimensions of motivational arousal are found to produce the greatest engagement of achievement-related motives. A study by Blumenfeld et. al. (1974) is cited as a basis for these later investigations, as is an unpublished study by Raynor and Mitchell (1974) which explores the joint effects of future- and self-importance on grades obtained in an introductory psychology course. Data tables and a bibliography are appended. (Author/CJ)

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The Engagement of Achievement-related Motives: Achievement Arousal vs. Contingent Future Orientation*

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I had originally intended to present in detail the results and implications of a recent study that I later discovered had already been presented to the Southeastern Psychological Association in May of this year by Blumenfeld, Hill, and Entin (1974).[1] The study was conducted to compare the effectiveness of relaxed vs. aroused instructions, as distinguished from noncontingent vs. contingent instructions, in engaging achievement-related motives. The results showed that, as would be expected based on theory of achievement motivation (cf. Atkinson and Feather, 1966; Atkinson and Raynor, 1974), male high school students low in test anxiety performed better than those high in test anxiety on a laboratory skill task. This difference was obtained in both a relaxed-contingent condition and an aroused-contingent condition. In both of these cortingent conditions subjects were told that it was necessary to solve 20 out of 25 problems on a prior task in order to earn the opportunity to work on later tasks in the series. Subjects in the relaxed group worked anonymously on "the standardization of some tasks" presented by informally dressed experimenters, while subjects in the aroused group worked with their names prominently placed on "a series of very challenging tests designed to measure ability..." (cf. Blumenfeld, et al, 1974, p. 6). The most important implication of this finding is that contingent path instructions appear sufficient to engage achievement-related motives for skilled performance and thereby produce the effects predicted by theory of achievement motivation as elaborated to include contingent future orientation (cf. Raynor, 1969, 1974a).

An additional finding of the Blumenfeld et al (1974) study was that under noncontingent instructions, where subjects were explicitly told that it was not

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necessary to solve 20 out of 25 problems on a prior task in order to be able to move on to the next task in the series, there was no difference in performance of high and low test anxiety groups, either in the relaxed or aroused conditions. The meaning of this finding is, however, less clear, since we do not know if the noncontingent instructions activity inhibit the engagement of achievement-related motives[2] or whether achievement arousal per se is not sufficient for their engagement.[3] Further research in which single activities are included as control conditions (both relaxed and aroused) will be needed to determine whether contingent future orientation is both the necessary and sufficient condition for the engagement of achievement-related motives.[4]

The Blumenfeld et al (1974) study has an important bearing on another direction that my research interests have taken. Later in this paper I will return to a further discussion of its implications. But now I would like to move on to additional data which bears on a specific aspect of achievement arousal --- one that I think has far-reaching implications for a general approach to theory and research on achievement behaviors. The variable concerns the "self-importance" of immediate activity. It is assessed by asking a subject to indicate to what extent is doing well on an immediate test of skill or competence is important (or necessary) for his own positive self-evaluation (or sometimes asked, for his own self-esteem, where self-esteem is defined for the subject as "feeling good about yourself"). The general form of the question reflects the research strategy I have pursued in which the person's thoughts and beliefs concerning the contingencies between his own action and its potential outcome(s) are considered as part of the motivational determinants of that action. The content of the question reflects my continued interest in what has been called "ego-involvement". The impetus for asking the question comes from the observation that long-term striving often involves pursuit of a career image or sense of self (cf. Raynor, 1974b),

and the specific finding that there is a substantial positive relationship between (1) the relatedness of a course final examination to a student's own future goals and (2) the relatedness of that final exam to the student's own positive self-evaluation (cf. Raynor, Atkinson, and Brown, 1974, Table 6).

We have replicated the finding of a positive relationship between "self-importance" and "future-importance". First, we found that if a student is asked to rate the extent to which his possession of a certain personality attribute (popularity, influence, competitiveness, competence, being a hard worker, being lucky) is believed necessary for achieving his own future goals, these ratings are positively correlated with his ratings of the extent to which possession of that personality attribute is believed important for his own positive self-evaluation (Raynor and English, unpublished data). We also found a positive correlation between the rated importance of doing well on a laboratory skill task "for your own self-evaluation" and "for your own future goals" (Raynor and English, unpublished data).

After replicating the finding that self-importance and future-importance are positively related, we then wondered: Has previous research systematically confounded the possible effects of a person's belief that success (either immediate or future success) is necessary for his own positive self-esteem with those previously attributed to the person's belief that prior success is necessary in order to earn the opportunity for continued achievement striving (cf. Raynor, 1974a)? And, more disturbing from the point of view of what we think we already know, we asked: Could it be that the accentuation of characteristic effects of achievement-related motives that have been attributed to contingent future orientation (such as reported earlier in the Blumenfeld et al, study) is produced instead by "contingent self evaluation"?

After conducting several as yet unpublished investigations into these questions I think we can tentatively conclude that (1) previous research in which contingent future orientation was claimed to produce effects need not be reinterpreted, (2) the effects of contingent self-evaluation (or the "self-importance" of immediate activity) are in fact similar to those of contingent future orientation, and (3) when research views both effects of self-importance and future-importance simultaneously, we find that use of both these dimensions of motivational arousal gives the greatest engagement of achievement-related motives.

The first point just made is based on indirect evidence from the Blumenfeld et al (1974) study which I described at the beginning of this paper. It would seem improbable that the majority of subjects in the relaxed-contingent condition of that study believed that doing well on the task was necessary and/or important for their own positive self-esteem. As already noted, the task was presented as one for which standardization of data was the primary goal. Subjects were told that the experimenter was not at all concerned with individual scores, and that subjects would remain anonymous in working on the tests. Yet the predicted interaction between the test anxiety measure and whether or not the subjects were told that doing well on the first task was necessary to work on the later tasks was found: low test anxiety subjects performed significantly better in the contingent than the noncontingent condition ($t = 2.09$, $df = 131$, $p < .025$); high test anxiety subjects performed worse (but not significantly so) in the contingent than the noncontingent condition ($t = 1.07$, n.s.); the superiority of the low over the high test anxiety group was substantial in the contingent condition ($t = 3.26$, $p < .001$); and this pattern of interaction was significant ($F = 4.63$, $df = 1/131$, $p < .05$). Thus if the assumption is correct that when a task is presented in a relaxed condition its outcome is seen as unrelated to subjects' self-esteem, then the Blumenfeld et al (1974) study provides evidence that

contingent future orientation by itself is sufficient to engage achievement-related motives --- without the need for self-importance to also be cognized by the subject.

The second and third points made above are based on recently obtained data that will be reported here in some detail (Raynor and Mitchell, unpublished data).[5] This study was explicitly designed to investigate the joint effects of future-importance and self-importance on grades obtained in an introductory course in psychology (cf. Raynor, 1970). Need for achievement, test anxiety, and questions regarding (1) the necessity of getting a B in the course for future plans to work out, and (2) the necessity of getting a B in the course for self-esteem (feeling good about yourself) were obtained at the beginning of the semester (Fall, 1973). Final course grades were obtained at the end of the semester, which was 4 months after the initial assessment.

In the analysis of this study, subjects were broken into high and low groups on both the self-necessity and future-necessity questions. We again find that, for men, the two questions are positively related (see Table 1). The data were then analyzed to determine if the original findings and theoretical predictions were obtained (cf. Raynor, 1974a, 1970). Table 2 shows means grades in introductory psychology as a function of achievement-related motives and rated necessity of a B in the course for future plans to work out. Inspection of the data shows that the predicted effects were again obtained. We find higher grades for the high n Achievement-low test anxiety group within the high than within the low rated necessity-for-future success, the opposite trend for the low n Achievement-high test anxiety group, and the expected ordering of motive groups within the high necessity-for-future success group (high-low highest, low-high lowest, with high-high and low-low motive groups intermediate between these extremes). The predicted pattern of interaction for the high-low and low-high groups that has just been described is statistically reliable ($t = 2.13$, $p < .025$).

Next the data were analyzed using high and low necessity of a B for positive self-esteem (see Table 3). Note that the pattern of results is almost identical to that for the future-necessity variable. Both Pearlson (1973) and English (1974) have presented arguments about the role of self-evaluation in the determination of immediate action that predict this pattern of results. Note that the interaction effect for self-necessity ($t = 2.41$, $p < .01$) is even stronger than the pattern for future-necessity ($t = 2.13$, $p < .025$).

The results reported thus far raise the distinct possibility that previous studies of this nature have confounded (and perhaps misattributed) effects of future necessity with those of self necessity in accentuating characteristic effects of achievement-related motives. However, when the two variables are viewed simultaneously (see Table 4) we see that both appear to contribute to the accentuation of differences between motive groups. Table 4 indicates that only when students believe that getting a B or better in the course is necessary for both future plans to work out and for feeling good about oneself do we find the predicted ordering of motive groups for grades in the course - high-low highest, low-high lowest, with high-high and low-low intermediate. For the high n Achievement-low test anxiety group it appears that both high self and future necessity are required for a substantial increment in grades over those obtained by this motive group when low on both variables (3.17 vs. 2.30; $t = 1.81$, $p < .05$). For this motive group, the addition of either high self or future necessity does not produce an increase in grades over that for the low-low group on self-future necessity (2.30 vs. 2.00 and 2.00). On the other hand, for the low n Achievement-high test anxiety group we not only find that the high-high group on self-future necessity tended to receive lower grades than the group low-low on self-future necessity (1.86 vs. 2.53; $t = 1.31$, $p < .10$), but that the low-high and high-low groups on self-future necessity both received lower grades than the low-low group on self-future necessity (2.53 vs. 2.25 and 2.00) and fall

intermediate between the low-low and high-high extremes. Thus the data in Table 4 suggest that the self and future necessity dimensions combine differently to influence grades of the "success-oriented" (high n Achievement-low text anxiety) and "failure-threatened" (low n Achievement-high test anxiety) groups.

However, subsequent analysis to further explore the joint effects of the self and future necessity variables in this study suggests a slightly different picture. It was decided to take seriously the psychological meaning of the questions used to assess standing on these dimensions. Since both questions asked students to rate the necessity of getting a B or better in the course, grades were converted to a scale where a B or better was scored +1 while a grade lower than B was scored 0. The proportion of students in each of the groups of Table 4 that received a B or better (i.e., a score of +1 on the conversion scale) was then calculated. Because of the positive relationship between the self and future necessity dimensions already referred to, we find a relatively small number of cases in the low-high and high-low groups for the combined self-future necessity dimension. Since this analysis was primarily concerned with determing the relative standing of these intermediate groups, they were combined. Thus Table 5 shows the proportion of students receiving a B or better in the course for 12 rather than the 16 groups of Table 4. The arrangement of data in Table 5 allows us to answer three theoretically meaningful questions by inspection of the means: Is high standing on one or the other of the self-future variables sufficient to (1) change grades of one or the other extreme motive groups; (2) yield the predicted superiority in grades of the high n Achievement-low test anxiety group over the low n Achievement-high test anxiety group;and (3) yield the predicted ordering of all motive groups (e.g., the high-high and low-low on n Achievement-test anxiety falling intermediate between the extreme motive groups).

Inspection of the data of Table 5 indicates a regular increase in proportion of students of the high n Achievement-low test anxiety group receiving a B or

better (.18 to .50 to .67) coupled with a regular decrease for students of the low n Achievement-high test anxiety group (.53 to .13 to .00) as we move from left to right columns of Table 5. This interaction effect is reliable ($F = 8.75$, $df = 2/49$, $p < .005$). For both extreme motive groups the proportion of students receiving a B or better in the middle column of Table 5 --- that is, those falling in the combined low-high---high-low group on the self-future necessity variables--- is intermediate between the low-low and high-high groups on self-future necessity. In addition, the predicted superiority of the high n Achievement-low test anxiety group over the low n Achievement-high test anxiety group is now apparent in this middle column of Table 5 --- that is, for students high on one or the other of the self-future variables (.50 vs. .13, $t = 1.44$, $df = 49$, $p < .10$). However, only one of the two intermediate motive groups, in this case the low n Achievement-low test anxiety group, falls intermediate between the extreme motive groups for the middle column of Table 5. Thus for students high on one or the other of the self-future variables these data reveal some evidence suggesting that achievement-related motives are engaged. Note that for students high on both variables, the ordering of all four motive groups is as expected and the same as in Table 4. That is, when students are high on both self-future necessity, those in the high n Achievement-low test anxiety groups received a greater proportion of Bs than did those of the low n Achievement-high test anxiety group (.67 vs .00, $t = 2.49$, $p < .01$) while those of the high-high and low-low groups on n Achievement-test anxiety fall intermediate between these extremes (.20 and .50, respectively).

To summarize the data concerning the functional significance of the rated necessity of earning a B or better in introductory psychology for future plans to work out and for positive self-esteem: While there is some uncertainty and inconsistency in the data as to whether one or the other vs both high self and high future necessity must be present to engage achievement-related motives, the data are clear in suggesting that when both are present we get the greatest accentuation

of the predicted characteristic effects of achievement-related motives and the predicted ordering of all four motive groups on n Achievement-test anxiety. Further research, preferably experimental studies in the laboratory in which the self and future necessity variables are manipulated independently of each other, will be necessary to resolve the question as to how these two variables combine to influence achievement motivation.

When previous research on contingent future orientation (cf. Atkinson and Raynor, 1974, Part II) is taken together with the research described in this paper, they seem to imply the following observations and conclusions. Historically, research on achievement motivation began with use of "ego-involving" instructions as the experimental means of arousing the achievement motive and of validating the n Achievement method of assessing it (cf. McClelland et al, 1953). Use of these instructions, with their name changed to "achievement-oriented", has continued for 25 years in the further development, validation, and refinement of theory of achievement motivation (cf. Atkinson, 1958; Atkinson and Feather, 1966; Atkinson and Raynor, 1974). I think we now have a better understanding of <u>why</u> these "achievement-oriented/ego-involving" instructions have produced the engagement of what we called "achievement-related motives". When a task outcome which the person feels responsibility for bears on his self-esteem or his opportunity to continue future goal striving, either as explicit features of the situation or as imposed on that situation by the person, it may be said that the person is faced with an "ego-involving" situation. Furthermore, the implications of such ego-involvement will vary as a function of individual differences in personality, or put in terms of operational definitions, in terms of individual differences in <u>whatever</u> it is that the n Achievement-test anxiety measures assess. Ego-involvement offers both "promise" and "threat": the implications will be excitatory for those individuals high in n Achievement and low in test anxiety, and inhibitory for those individuals low in n Achievement and high in test anxiety. The important

conceptual point is that while the cognitions that represent what is called "ego-involvement" may be the same for all persons (e.g., "this is related to my self-worth", "this is related to my changes to try for future success"), the functional significance of these cognitions for behavior and affective anticipations and reactions will remain different.

Whatever the specific theoretical analysis that is brought to bear to explain the determinants of achievement behaviors such as academic performance it must be able to account for the interaction between individual differences in "motives" and individual differences in "cognitions", as represented, for example, in Tables 2 through 5 of this paper. Motivational arousal to influence behavior would seem to require both an affectively toned predisposition (here represented by the difference between standing on n Achievement and test anxiety, and in theory of achievement motivation (cf. Atkinson and Raynor, 1974) thought of as the difference between the motives to achieve success and to avoid failure) operating in interaction with cognitions concerning the meaning of the outcome of action. Motives by themselves do not predict behavior. Cognitions by themselves do not predict behavior. Rather, beliefs about the necessity/importance of outcomes of action (as shown here for self-esteem and future success) interact with a person's characteristic manner of emotional reaction to such cognitions. To change the functional significance of an ego-involving situation involves not only changing the meaning of the outcomes of that behavior, but changing the emotional anticipations brought to that situation Whether these two kinds of variables are combined into one - as in McClelland's (1965) notion of an affectively toned set of cognitions (his definition of motive) or as in Weiner's (1972) notion of ability interacting with causal attribution - or remain as distinct variables in a theory should depend upon the extent to which that theory can account for results like those shown in Tables 2 through 5. I know of no affective theory of achievement arousal, nor any cognitive theory of achievement arousal, that

by itself can account for the pattern of interaction I use Tables 2 through 5 to represent. My knowledge may indeed be limited. Conceptual arguments by Raynor (1969, 1974a), Pearlson (1973) and English (1974) which attempt to retain both affective and cognitive achievement arousal and, when combined predict the pattern of results of Table 5, are inadequate to account for the baseline data represented by the low-low self-future necessity groups (the left column of Table 5 - which reveal a reversal of the predicted superiority of the high-low over the low-high n Achievement-test anxiety groups (Tables 2, 3 and 4 yield similar results). This reversal has been noted by Weiner (1972) and others and is a rather consistent feature of studies on achievement arousal as well as contingent future orientation. It remains unaccounted for. We need an explanation that can incorporate it as well as the other data of Tables 2 through 5. I have some ideas, but none that are supported by evidence.

Footnotes

1. I had suggested the importance of this study and had been involved in its design.

2. Results reported by Sorrentino (1973) suggest that noncontingent instructions do not actively inhibit the engagement of achievement-related motives. He found that, for subjects high in n Affiliation, a high n Achievement-low test anxiety group of male college students performed significantly better than those of the low n Achievement-high test anxiety group on a laboratory skill task pretested in a three-step contingent series. Subjects in this non-contingent condition were explicitly told that it was not necessary to achieve a given standard of performance in order to be able to move on to the next task in the series.

3. Results reported by Karabenick and Youssef (1968) suggest that achievement-oriented instructions are sufficient to engage achievement-related motives. In this study it was found that the high n Achievement-low test anxiety group performed better than the low n Achievement-high test anxiety group on a laboratory learning task, and that this difference was clearest under moderate subjective probability of success and less pronounced under either high or low task difficulty. The task was presented as a single activity in isolation (a one-step path). In addition, the arousal instructions of this study do not appear to appeal to contingent future orientation, unless the word "test" itself arouses in subjects the possibility of further achievement based on successful immediate performance.

4. The Mehrabian (1968) measure of resultant achievement motivation was also included in the Blumenfeld et al (1974) study in an attempt to validate it under known experimental conditions. Unfortunately, scores on the Mehrabian measure did not relate to performance under any of the conditions of the study. It therefore cannot be recommended as a substitute for either the n Achievement measure of the motive to achieve or as a substitute for the n Achievement-test anxiety measure of resultant motive strength.

5. The data to be reported here on self-importance were collected as part of an undergraduate honors project conduced under my supervision by Mitchell (1974) but not included in his report.

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Table 1

Relationship between getting a B or better in introductory psychology for having future career plans work out and for self-esteem (feeling good about yourself)

		Necessity of B for future career plans	
		Low	High
Necessity of B for self-esteem	Low	56	19
	High	20	24

$x^2 = 9.02$, df = 1, $p < .005$

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Table 2

Mean grades in introductory psychology as a function of n Achievement-test anxiety and rated necessity of a B or better for future plans to work out.

	Necessity of B for future plans			
n Achievement-test anxiety	Low		High	
	N	Mean	N	Mean
High-Low	12	2.17c	11	2.64a
High-High	17	2.41	8	2.50
Low-Low	28	2.21	15	2.33
Low-High	20	2.40d	11	2.00b

MSe = .95, df = 1/214*

a-b ; t = 1.52, p <.10 1 - tailed

(a-b) - (c-d); t = 2.13, p <.025, 1 - tailed

*Most stable estimate based on data from both men and women. However, data for women are not presented here.

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Table 3

Mean grades in introductory psychology as a function of n Achievement-test anxiety and rated necessity of B or better for self-esteem (feeling good about yourself)

	Necessity of B for self-esteem			
	Low		High	
n Achievement-test anxiety	N	Mean	N	Mean
High-Low	15	2.20c	7	3.00a
High-High	12	2.58	10	2.50
Low-Low	29	2.17	13	2.54
Low-High	19	2.47d	12	1.92b

MSe = .89, df = 1/200*

a-b ; t = 2.41, p <.02, 2 - tailed test**

(a-b) - (c-d); t = 2.43, p <.02, 2 - tailed test

*Obtained from sample of both men and women. Only data for men presented here.

**Although in the expected direction, more conservative test is used since the author was open to the possibility that other patterns of results might be found.

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Table 4

Mean grades in introductory psychology as a function of n Achievement-test anxiety and both rated necessity of B or better for future plans to work out and self-esteem.

n Achievement-test anxiety	Self-Future Necessity of B: Low-Low		Low-High		High-Low		High-High	
	N	M	N	M	N	M	N	M
High-Low	10	2.30c	5	2.00	1	2.00	6	3.17a
High-High	9	2.44	3	3.00	5	2.80	5	2.20
Low-Low	21	2.10	8	2.38	7	2.57	6	2.50
Low-High	15	2.53d	4	2.25	5	2.00	7	1.86b

MSe = .90, df = 45*

a-b ; t = 2.48

a-c ; t = 1.81

b-d ; t = 1.31

(a-b)- (c-d); t = 2.41

*Based on men only, and only using High-Low and Low-High motive groups (a conservative estimate; more stable value not yet available)

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Table 5

Proportion of students with a B or better in introductory psychology as a function of n Achievement-test anxiety and both rated necessity of B or better for future plans to work out and self-esteem.

	Self-Future Necessity of B					
n Achievement-test anxiety	Low-Low		High-Low and Low-High		High-High	
	N	P	N	P	N	P
High-Low	11	.18	6	.50	6	.67
High-High	9	.33	8	.63	5	.20
Low-Low	21	.19	15	.40	6	.50
Low-High	15	.53	8	.13	7	.00

Analysis of variance for Extreme Motive Groups

Source	SS	df	MS	F
(A) n Achievement-test anxiety (H-L vs L-H)	.6270	1	.6270	4.42*
(B) Self-Future	.0127	2	.0064	< 1
AB	3.9606	2	1.4803	8.76**
Error (within cells)	11.0780	49	.2261	

* $p < .05$

** $p < .005$